WHAT IS CLAIMED IS:

1. A method for monitoring a location of a vehicle, the method comprising:

selecting a boundary within a coordinate system, the boundary including at least one straight edge;

determining an angle between a selected straight edge of the boundary and an axis of the coordinate system;

rotating the boundary by the angle such that the selected straight edge of the rotated boundary is parallel to the axis of the coordinate system;

identifying a set of coordinates associated with a particular location of a monitored device;

rotating the identified set of coordinates by the angle; and

comparing the rotated set of coordinates to the rotated boundary to determine a location of the monitored device with respect to the selected boundary.

2. The method of claim 1 wherein the boundary comprises a rectangle and comparing the coordinates comprises determining whether the location of the monitored device is within the rectangle.

3. The method of claim 2 wherein the rectangle comprises one of a collection of overlapping rectangles that define a route, the method further comprising selecting an adjacent rectangle of the collection of overlapping rectangles if the location of the monitored device is not within the rectangle.

4. The method of claim 3 further comprising:

rotating the adjacent rectangle by an angle between a selected side of the adjacent rectangle and an axis of the coordinate system such that the selected side of the rotated adjacent rectangle is parallel to the axis of the coordinate system;

rotating the identified set of coordinates by the angle between the selected side of the adjacent rectangle and the axis of the coordinate system to generate a second set of rotated coordinates; and

comparing the second set of rotated coordinates to the rotated adjacent rectangle to determine whether the location of the monitored device is within the adjacent rectangle.

5. The method of claim 2 wherein:

the rectangle is defined by coordinates of two opposite corners of the rectangle,

rotating the boundary comprises rotating the coordinates of the two opposite corners of the rectangle by the angle, and

comparing the rotated set of coordinates to the rotated boundary comprises comparing the rotated set of coordinates to the rotated coordinates of the two opposite corners of the rectangle.

6. The method of claim 1 further comprising initiating a pre-selected response based on an outcome of the comparison between the rotated set of coordinates and the rotated boundary.

7. The method of claim 1 wherein:

the selected boundary comprises a straight line identified by coordinates that define endpoints of the straight line, and

rotating the boundary by the angle comprises rotating the coordinates that define the endpoints by the angle.

8. A system for facilitating vehicle location monitoring, the system comprising:

a locator operable to identify a location of a monitored device;

a memory operable to store at least one angle of rotation and rotated coordinates associated with a predetermined boundary, the rotated coordinates corresponding to original coordinates defining the predetermined boundary in a coordinate system, with each of the original coordinates being rotated by a corresponding angle of rotation to generate the corresponding rotated coordinates prior to storing each of the rotated coordinates in the memory, wherein the rotated coordinates define at least one segment of a rotated boundary; and

a processor operable to rotate coordinates representing the identified location by at least one of the stored angles of rotation to calculate rotated location coordinates and to compare the rotated location coordinates with at least two of the rotated coordinates to determine a relative position between the monitored device and the predetermined boundary.

9. The system of claim 8 wherein the monitored device includes the locator, the memory, and the processor.

10. The system of claim 8 further comprising a mobile transmitter operable to selectively send a message based on the position of the monitored device relative to the predetermined boundary.

11. The system of claim 10 further comprising a remote device operable to receive the message and initiate a pre-selected response to the message.

12. The system of claim 8 wherein the memory stores data corresponding to segments of the rotated boundary, each segment identified by at least two sets of rotated coordinates from the stored rotated coordinates and having an associated angle of rotation.

13. The system of claim 12 wherein the boundary represents a geographic route and each segment of the boundary comprises a rectangle defining a portion of the geographic route.

14. The system of claim 8, further comprising a second processor operable to calculate the at least one angle of rotation and to rotate the original coordinates defining the predetermined boundary by the corresponding angle of rotation to generate the rotated coordinates prior to storing the at least one angle of rotation and the rotated coordinates in the memory.

15. The system of claim 8 wherein:

each segment has at least one edge that is parallel to an axis of the coordinate system; and

each angle of rotation is defined by an angle between an axis of the coordinate system and a straight edge of the predetermined boundary associated with the original coordinates to be rotated.

16. The system of claim 8 wherein the locator comprises a global positioning satellite receiver.

17. A method for monitoring a location of a vehicle, the method comprising:

storing at least two sets of rotated coordinates associated with a predetermined rectangular boundary, the at least two sets of rotated coordinates corresponding to at least two sets of original coordinates that define the predetermined rectangular boundary in a coordinate system, wherein each set of original coordinates is rotated by an angle of rotation to generate the corresponding set of rotated coordinates prior to storing each set of rotated coordinates, and the at least two sets of rotated coordinates define a rotated rectangular boundary having sides that are parallel to axis of the coordinate system;

storing the angle of rotation, wherein the angle of rotation is defined by an angle between one of the axis of the coordinate system and a side of the predetermined rectangular boundary;

identifying a location of a vehicle;

rotating a set of coordinates representing the identified location of the vehicle by the angle of rotation to generate a rotated set of location coordinates; and

comparing the rotated set of location coordinates with the at least two sets of rotated coordinates to determine a position of the vehicle relative to the predetermined rectangular boundary.

18. The method of claim 17 wherein each set of coordinates identifies a longitudinal and a latitudinal position.

19. The method of claim 17 further comprising determining whether the location of the vehicle is within the predetermined rectangular boundary based on the position of the vehicle relative to the predetermined rectangular boundary.

20. The method of claim 19 further comprising:

storing rotated coordinates associated with an additional rectangular boundary adjacent to the predetermined rectangular boundary, the rotated coordinates corresponding to original coordinates that define the adjacent rectangular boundary, wherein each of the original coordinates is rotated by a corresponding angle of rotation to generate the corresponding rotated coordinates prior to storing each of the rotated

coordinates, and the rotated coordinates define a rotated adjacent rectangular boundary having sides that are parallel to axes of the coordinate system;

storing an angle of rotation for the adjacent rectangular boundary, wherein the angle of rotation for the adjacent rectangular boundary is defined by an angle between one of the axis of the coordinate system and a side of the adjacent rectangular boundary; and

responsive to a determination that the location of the vehicle is not within the predetermined rectangular boundary:

rotating the set of coordinates representing the identified location of the vehicle by the angle of rotation for the adjacent rectangular boundary to generate a second rotated set of location coordinates; and

comparing the second rotated set of location coordinates with the rotated coordinates associated with the adjacent rectangular boundary to determine whether the location of the vehicle is within the adjacent rectangular boundary.

21. The method of claim 20 further comprising initiating a pre-selected response if the location of the vehicle is not within the predetermined rectangular boundary and is not within the adjacent rectangular boundary.

22. The method of claim 17 wherein the predetermined rectangular boundary is one of a collection of predefined rectangular boundaries that collectively define a route.